



Rustic Riparian Landscape Zones

Several riparian environments occur on the main site and have significant habitat value. These environments will be protected from development, with only maintenance activities permitted.

Screening Tree Landscape Zones

The existing and proposed screening tree areas will filter views of Laboratory buildings. Important stands of trees that currently screen the view of Laboratory buildings from the surrounding community will be maintained, and additional screening will be added where it can help maintain the distinctive character of the site. Screening trees will also be added along Centennial Drive within the Laboratory boundary to provide a visual buffer for views from public areas at higher elevations.



FIGURE 3.30 (far left)
The Laboratory's open space is characterized by a rustic landscape of native and naturalized woodlands and grasslands

FIGURE 3.31 (left)
Areas of Rustic Riparian Landscape on the Laboratory are protected from future development

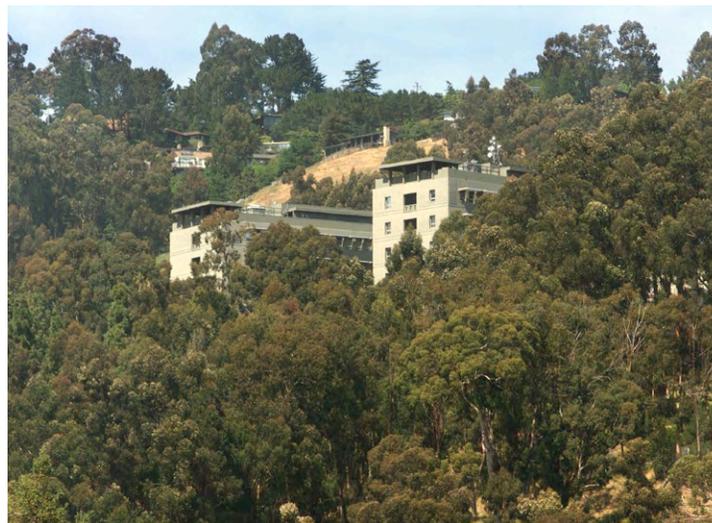


FIGURE 3.32 (left)
Stands of trees screen the view of Laboratory buildings from neighboring communities

FIGURE 3.33 (right)
Ornamental landscapes
are placed near
pedestrian spines



FIGURE 3.34 (far right)
Special plantings used
to heighten visual
interest in high-activity
pedestrian areas



Ornamental Landscape Zones

Within the developed portions of Berkeley Lab, where high levels of pedestrian activity occur, ornamental landscapes will be used to add color, visual interest, and other amenities. The developed areas of the Laboratory, corresponding to research clusters, support areas, and parking lots are currently landscaped with a variety of plant materials. This strategy will be continued as aging or outdated facilities are removed and new are added.

Significant Ornamental Landscape Zones

As the common area within each research cluster is reconfigured to provide more usable outdoor areas, landscaping will be used to reinforce their attractiveness through the use of color, texture, and visual interest. In particular, the Laboratory Commons, the primary gathering space of the Laboratory, will be landscaped and furnished to provide a diversity of usable outdoor environments for special events.

Utilities and Infrastructure

CONTEXT AND EXISTING CONDITIONS

Berkeley Lab owns and maintains a utility infrastructure that enables the safe, efficient, and reliable operation of its scientific and support facilities. The Laboratory's utility infrastructure consists of the following systems described in this section:

- Water Supply and Distribution
- Sanitary Sewer System
- Storm Drainage
- Electrical Power and Distribution
- Natural Gas Distribution
- Telecommunications and Network Distribution

All of the Laboratory's permanent utilities are located underground. Continual investment in the rehabilitation and replacement of these systems has ensured that they are in good to excellent condition. However, some of the older utility lines were routed through potential building sites, constraining their potential.

The Laboratory will continue to upgrade and replace utilities throughout the life of this plan to maintain reliability and meet increased demand. New distribution lines and related facilities

will be constructed on an as needed basis within the overall framework discussed on the following pages.

UTILITIES AND INFRASTRUCTURE STRATEGIES

- Maintain a safe and reliable utility infrastructure capable of sustaining the Laboratory's scientific endeavors
- Consolidate utility distribution into centralized utility corridors that generally coincide with major roadways
- Ensure that utility infrastructure improvements accommodate future facility expansion and alterations in the most cost effective means possible
- Design infrastructure improvements to embody sustainable practices

UTILITIES FRAMEWORK

Water Supply and Distribution

Berkeley Lab's water supply and distribution system is designed and maintained to provide a reliable water supply for its current and future needs. The East Bay Municipal Utility District (EBMUD) provides water to the Laboratory at two points of connection. In 2005 the Laboratory consumed 33.6 million gallons of water, which was less than 10% of the capacity of its

FIGURE 3.35 Berkeley Lab's sedans and pickups operate on 85% ethanol to minimize air pollutants and reduce dependence on foreign oil (buses run on biodiesel)



water supply system. Full implementation of the 2006 LRDP will generate an estimated demand of approximately 56.5 million gallons per year—a 30 percent increase that is well within the capacity of both the Laboratory's and EBMUD's infrastructure.

The on-site distribution system delivers high-pressure domestic and fire protection water to Laboratory facilities through a gravity-feed loop system. This system enables full operation during maintenance activities and interruptions due to natural hazards. The system includes three on-site 200,000-gallon water storage tanks that provide emergency water supply in the event of service interruption from EBMUD.

Existing water supply and distribution lines will be replaced over the duration of this LRDP if necessary to ensure continued reliability and reduce “line-loss” attributed to outdated, deteriorating pipelines. Outdated water mains will be replaced by new lines located within the utility corridors indicated in Figure 3.36. Proposed system upgrades include the replacement of an existing 8-inch line located under Centennial Drive.

Sanitary Sewer System

The Laboratory's sanitary sewer infrastructure primarily consists of a gravity flow system with two points of discharge. One, located at Hearst Avenue connects to the City of Berkeley's public sewer system through the Hearst Monitoring Station. The other connects to the UC Berkeley main under Centennial Drive through the Strawberry Monitoring Station. Effluent from both the Laboratory and UC Berkeley flows to the EBMUD treatment facility in Oakland through the City of Berkeley's sewer system.

Aging sewer infrastructure is a regional problem affecting flow volumes and system capacities as pipes in poor condition allow storm water infiltration during wet weather conditions. Through a phased replacement program the Laboratory has improved enough of the system to reduce its discharge volumes by half over the past 15 years. This replacement program will continue through the duration of the LRDP. Sewer mains on site will be replaced with new pipe located within the utility corridors where possible. The Strawberry Monitoring Station will be upgraded and the Centennial Drive sewer main from the Life Sciences area will be replaced.